

## Civil/Structural Engineering Competency 4.1

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**Competency 4.1** Civil/structural engineering personnel shall demonstrate a working knowledge of the Department of Energy (DOE)/facility contract provisions necessary to provide oversight of a contractor's operations.

### 1. Supporting Knowledge and Skills

- a. Describe the role of civil/structural engineering personnel in contractor oversight.
- b. Compare and contrast the following:
  - The Department of Energy's expectations of a Management and Operating (M&O) contractor
  - Management and Operating (M&O) contractors' expectations of the Department of Energy
- c. Identify the key elements and features of an effective Department of Energy and Management and Operating (M&O) contractor relationship.
- d. Describe civil/structural engineering personnel's responsibility in contractor compliance with the Price-Anderson Amendments Act.
- e. Describe the role of civil/structural engineering personnel in the cost-plus-award fee process.
- f. Participate in a cost-plus-award fee evaluation for one grading period.
- g. Explain civil/structural engineering personnel's responsibilities in identifying, reporting, reviewing, and documenting employee concerns under DOE Order 5480.29, *Employee Concerns Management System*.

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### 2. Self-Study Activities (Corresponding to the Intent of the Above Competency)

Below are two web sites containing many of the references you may need.

Web Sites		
Organization	Site Location	Notes
Department of Energy	<a href="http://wastenot.inel.gov/cted/stdguido.html">http://wastenot.inel.gov/cted/stdguido.html</a>	DOE Standards, Guides, and Orders
U.S. House of Representatives	<a href="http://law.house.gov/cfr.htm">http://law.house.gov/cfr.htm</a>	Searchable Code of Federal Regulations

**Read** DOE N 4700.5, *Project Control System Guidelines*, Attachment 2, Project Control System Guidelines.

**Scan** Department of Energy Acquisition Regulation (DEAR) Part 970, *DOE Management and Operating Contracts*.

**Read** DOE-STD-1063-93, *Establishing and Maintaining a Facility Representative Program at DOE Nuclear Facilities*, Section 5.1, Facility Coverage and Assignment; Section 5.2, Duties and Responsibilities of a Facility Representative; and Section 5.3, Authority Granted to Facility Representatives. (This reference is used here because its discussion of contractor oversight, though specific to facility representatives, is applicable to all DOE professionals who perform contractor oversight duties.)

**Read** DOE Order 5700.6C, *Quality Assurance*, Section 9, Requirements, and **scan** 10 CFR 830.120, *Quality Assurance*.

**Read** DOE G-830.120, *Implementation Guide for Use With 10 CFR 830.120, Quality Assurance*, Section 5, Work Processes; Section 7, Procurement; Section 9, Management Assessment; and Section 10, Independent Assessment.

EXERCISE 4.1-A Generally, what is the DOE professional's role in contractor oversight as it pertains to contract management?

EXERCISE 4.1-B Referring to DOE G-830.120, *Implementation Guide for Use With 10 CFR 830.120, Quality Assurance*, Section 9, Management Assessment, and Section 10, Independent Assessment, what is the purpose of the management and independent assessments in the context of contractor oversight?

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**Review** DOE Order 4700.1, *Project Management System*.

NOTE: This Order has been (or is expected to be) canceled upon the expiration of its incorporation into contracts or other agreements. It is presented here because its general content remains applicable.

**Read** *A Guide to Best Practices for Performance-Based Service Contracting*, Office of Federal Procurement Policy, Office of Management and Budget, Interim Edition, April, 1996.

**Read** DOE Acquisition Letter 95-D4, dated April 17, 1995.

EXERCISE 4.1-C How are performance criteria (expectations) developed and the performance requirements transmitted to the contractor?

EXERCISE 4.1-D Explain the role of program/project personnel (other than contracting officer's representatives) regarding the evaluation of contractor occupational safety programs for the cost-plus-award fee process.

**Read** DOE Order 5480.19, *Guidelines for the Conduct of Operations at DOE Facilities*, Attachment I, Chapter 1, Operations Organization and Administration.

EXERCISE 4.1-E Identify the key elements and features of an effective DOE and operating contractor relationship.

**Read** the information about the Price-Anderson Act presented in the "Summary" section of this study guide. This information was extracted from the *Federal Register* and Public Law 100-408, Price-Anderson Amendments Act.

**Scan** 10 CFR 830, *Nuclear Safety Management*.

EXERCISE 4.1-F Very broadly, what is the purpose of the Price-Anderson (Amendments) Act?

EXERCISE 4.1-G What are the implications of the Price-Anderson Act for 1) the DOE professional and 2) the contractor?

EXERCISE 4.1-H What is the impact of the Act upon the award-fee process?

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**Read** Sections 901.603-71 of DEAR, CFR Title 48, Chapter 9.

EXERCISE 4.1-I Explain what civil/structural engineering personnel (other than contracting officer's representatives) are supposed to do regarding the evaluation of contractor occupational safety programs for the cost-plus-award fee process.

EXERCISE 4.1-J Participate in a cost-plus-award fee evaluation for one grading period.

**Read** DOE Order 5480.29, *Employee Concerns Management System*.

EXERCISE 4.1-K What is the purpose of DOE Order 5480.29?

EXERCISE 4.1-L What is the role of DOE technical personnel regarding DOE Order 5480.29?

### 3. Summary

The Government Performance and Results Act of 1993 and the National Performance Review mandate an outcome-based approach to performance measurement. In response to these directives, the Performance Measurement Assessment program was developed to provide a "balanced scorecard" on a contracting activity's performance. The new assessment mechanism employs a results-oriented approach, which pays particular attention to the needs and expectations of customers of the procurement process. This assessment model received its impetus from recent commercial and Federal trends to "find a better way of doing things," and to emphasize results rather than process. It empowers the procurement organization to continuously improve its performance.

As this study guide is being developed, the DOE contracts management process is transitioning to the Performance Measurement Assessment program. At the same time, procurement and administrative functions have traditionally been independent of one another, with each Operations Office deferring to its own methods and guidance documents. Due to these issues, the reader should refer to the references listed and to site-specific requirement and guidance documents and subject-matter experts.

DOE contracts for the management and operation of DOE facilities, the design and production of nuclear weapons, energy research and development, and the performance of other services. These M&O contractors have been selected for their technical and managerial expertise and are expected to utilize these technical and managerial skills to accomplish the significant Federal mission(s) described in their contracts with and work plans approved by DOE.

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As DOE shifts to a Performance-Based Method of contracting, new relationships need to be created with the contractor and different performance-based evaluation methods need to be developed. Partnering is just one of the methods available.

Effective relationships between the Department and operating contractors are based in the site's conduct of operations. The organization and administration of operations should ensure that a high level of performance in DOE facility operations is achieved through effective implementation and control of operations activities. Effective implementation and control of operating activities are primarily achieved by establishing written standards in operations, periodically monitoring and assessing performance, and holding personnel accountable for their performance.

Passage of the Price-Anderson Act in 1957, which amended the Atomic Energy Act of 1954, was intended primarily to assist the fledgling commercial nuclear industry, which was otherwise unable to insure itself due to its hazardous nature. Congress included government contractors under the legislation's coverage to provide the public with full protection for nuclear incidents, whether they occurred at government-owned facilities or at commercial nuclear power plants. Although Congress made indemnification of M&O contractors optional in the original Price-Anderson Act, the Atomic Energy Commission (AEC) routinely protected its contractors against all liability resulting from nuclear incidents. Additionally, by extending the role of government insurer into the nonnuclear area, the AEC provided contractual protection for all other activities at government-owned facilities.

The Price-Anderson Amendments Act of 1988 added Section 234A to the Atomic Energy Act to provide DOE with authority to assess civil penalties for violations of rules, regulations, or orders relating to nuclear safety by contractors and subcontractors who are indemnified by the Department, pursuant to Section 170 of the Atomic Energy Act. Any risks that are indemnified by the Government will not be considered as risk to the contractor. The net result of this Act is to provide for greater accountability of contractors, subcontractors, and suppliers in the performance of their duties under contract with DOE for the indemnified nuclear activities. The availability and careful exercise of this authority by DOE management and facility representatives can reduce the likelihood of serious nuclear incidents. For the contractor, there are opportunities as well to identify improvements to existing operations, facilities, and modifications in practices that can improve the health and safety of staff, the public, and the environment. To this end, the DOE professional:

- a. Oversees and provides direction to the contractor for the preparation of implementation plans in response to the new rules
- b. Monitors the contractor's adherence to the rules
- c. Brings potential non-compliances to supervisor or PAAA Coordinator
- d. Assists DOE HQ in determining contractor's liability and penalty (civil and/or criminal) for a violation

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The contractor:

- a. Is required to prepare implementation plans for the new rules
- b. Is civilly and criminally liable for failing to adhere to the rules
- c. Is directly affected by its performance

DOE personnel may be asked to participate in the contractor evaluation assessments or reviews or to supply input to those actually performing the review. The items that need to be reviewed from the line management perspective need to be for competitive sources are/were solicited, evaluated, and selected; standards are prescribed and met; performance or delivery is timely; estimated costs and fees are reasonable; and files are documented to substantiate the judgments, decisions, and actions taken.

The primary purpose of DOE Order 5480.29, *Employee Concerns Management System*, is to complement existing employee-reporting procedures and to allow anonymous and confidential reporting and evaluation of employee environment, safety, and health (ES&H) concerns. The Order contains detailed instructions regarding the minimum content of an Employee Concerns Management System, and the roles and responsibilities of significant stakeholders.

### 4. Exercise Solutions

(Any reasonable paraphrase of each of the following answers is acceptable.)

EXERCISE 4.1-A Generally, what is the DOE professional's role in contractor oversight as it pertains to contract management?

ANSWER 4.1-A In accordance with contract provisions, DOE has the “right to inspect the work and activities of the contractor. . .at such time in such manner as it shall deem appropriate,” and “to determine project status by analyzing technical, schedule, and cost performance considering potential problems, their impact, and alternative courses of action.” With regard to contractor oversight, the DOE professional, as a representative of DOE line management, “ensures that the contractor’s facilities are operated safely and efficiently, the contractor’s management system is effectively controlling its conduct of operations, and effective lines of communication between DOE and its operating contractors are maintained.” To this end, the DOE professional:

- Identifies significant differences between planned and actual cost, schedule, and technical activities
- Implements a performance measurement system to identify and analyze problematic areas
- Validates the estimates-at-completion (EAC)

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EXERCISE 4.1-B Referring to DOE G-830.120, *Implementation Guide for Use with 10 CFR 830.120, Quality Assurance*, Section 9, Management Assessment, and Section 10, Independent Assessment, what is the purpose of the management and independent assessments in the context of contractor oversight?

ANSWER 4.1-B The DOE professional should encourage the contractor's management to periodically assess how well their organization's leadership is enabling the organization to meet DOE's requirements and expectations. This assessment should focus on the identification and resolution of systemic and cultural management issues and problems. Similarly, contractor management should establish and implement a method for independent assessment of their organizations, programs, and projects in order to evaluate the performance of work with regard to DOE's requirements and expectations, and toward achieving their own mission and goals. The results of these assessments augment the DOE professional's operational awareness of the contractor and contribute to the reasonable assurance that the contractor is meeting DOE's requirements and expectations.

EXERCISE 4.1-C How are performance criteria (expectations) developed and the performance requirements transmitted to the contractor?

ANSWER 4.1-C Performance Evaluation Plans (PEPs) should clearly delineate and effectively communicate to the contractor's appropriate milestones and performance objectives for the upcoming rating periods. The award-fee criteria for each contract must reflect the Department's restructured objectives, priorities, and focused initiatives. They must be meaningful and challenging objectives, prioritized and weighted appropriately. In establishing these criteria, goals and objectives resulting from Tiger Teams, Technical Safety Appraisals, and other report recommendations should be included.

Contract administration (including evaluations) should be based on mutual cooperation or "partnering" between DOE and the contractor. Creating a partnership agreement signed by all parties creates a "buy in" to the overall goal of satisfactory performance on time, within budget, and without claims. Partnering can transform an adversarial relationship or attitude into a professional

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relationship built on trust and cooperation. Contracting parties that have participated in partnering have experienced: more timely performance, better cost control, significant reductions in paperwork, and fewer disputes.

**EXERCISE 4.1-D** Explain the role of program/project personnel (other than contracting officer's representatives) regarding the evaluation of contractor occupational safety programs for the cost-plus-award fee process.

**ANSWER 4.1-D** Program personnel who use the contracting process to accomplish their programs must support the contracting officer in ensuring that:

- Competitive sources are solicited, evaluated, and selected.
- Quality standards are prescribed and met.
- Performance or delivery is timely.
- Schedules, estimated costs, and fees are reasonable.
- Files are documented to substantiate the judgments, decisions, and actions taken.

**EXERCISE 4.1-E** Identify the key elements and features of an effective DOE and operating contractor relationship.

**ANSWER 4.1-E** An effective DOE and operating contractor relationship includes the following features:

- High operating standards established by management
- Communication of operating standards to the working level
- Sufficient resources provided to the operations department
- Ensurance that personnel are well trained
- Close monitoring of performance in operations
- Accountability of workers and their supervisors for their performance in conducting activities

**EXERCISE 4.1-F** Very broadly, what is the purpose of the Price-Anderson (Amendments) Act?

**ANSWER 4.1-F** To amend the Price-Anderson provisions of the Atomic Energy Act of 1954 to extend and improve the procedures for liability and indemnification for nuclear incidents, as well as contractor accountability.



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EXERCISE 4-1-G What are the implications of the Price-Anderson Act for 1) the DOE professional and 2) the contractor?

- ANSWER 4.1-G
1.
    - a. Oversees and provides direction to the contractor for the preparation of implementation plans in response to the new rules
    - b. Monitors the contractor's adherence to the rules
    - c. Brings potential noncompliances to supervisor or PAAA Coordinator
    - d. Assists DOE HQ in determining contractor's liability and penalty (civil and/or criminal) for a violation
  2.
    - a. Contractors are required to prepare implementation plans for the new rules.
    - b. Contractors are civilly and criminally liable for failing to adhere to the rules.

EXERCISE 4.1-H What is the impact of the Act upon the award-fee process?

ANSWER 4.1-H Noncompliance and violations will likely be factored into the evaluation of contractor performance.

EXERCISE 4.1-I Explain what civil/structural engineering personnel (other than contracting officer's representatives) are supposed to do regarding the evaluation of contractor occupational safety programs for the cost-plus-award fee process.

ANSWER 4.1-I Program personnel who use the contracting process to accomplish their programs must support the contracting officer in ensuring that:

- Competitive sources are solicited, evaluated, and selected.
- Quality standards are prescribed and met.
- Performance or delivery is timely.
- Prices, estimated costs, and fees are reasonable.
- Files are documented to substantiate the judgments, decisions, and actions taken.

EXERCISE 4.1-J Participate in a cost-plus-award fee evaluation for one grading period.

ANSWER 4.1-J See your supervisor to schedule your participation in an evaluation/assessment.

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EXERCISE 4.1-K What is the purpose of DOE Order 5480.29?

ANSWER 4.1-K “To create the framework for promptly identifying, reporting, and resolving employee concerns regarding Department of Energy (DOE) facilities or operations . . . The primary purpose of this framework is to complement existing employee-reporting procedures in order to allow an independent avenue for anonymous and confidential reporting and evaluation of employee ES&H concerns without supplanting existing requirements in DOE Orders, rules, and regulations for employee reporting.” (DOE Order 5480.29, Section 1)

EXERCISE 4.1-L What is the role of DOE technical personnel regarding DOE Order 5480.29?

ANSWER 4.1-L In addition to the requirements for compliance with the notification and support provisions of the Order, environmental compliance personnel may be called upon to assist in performing worksite inspections, or in the evaluation of concerns raised under the Order (DOE Order 5480.29, Attachment I, Chapter I, Sections 5 and 6).